

VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a major, municipal permit. The effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260 et seq. The discharge results from the operation of a wastewater treatment facility that serves the City of Emporia and surrounding commercial area. This permit action consists of updating Part I limitations, monitoring requirements and special conditions. SIC Code: 4952

1. Facility Name and Address: Emporia Wastewater Treatment Plant
500 Tall Oaks Drive
Emporia, VA 23847
2. Permit No. VA0020346
Existing Permit Expiration Date: May 13, 2012
3. Owner: City of Emporia
Owner Contact Name: James L. Epps
Title: Superintendent of Wastewater Treatment
Telephone No: (434) 634-5682
Address: P.O. Box 511
Emporia, VA 23847
4. Application Complete Date: February 13, 2012

Permit Drafted By: Janine Howard Date: 2/9/2012
Piedmont Regional Office
Reviewed By: Jeremy Kazio Date: 3/6/2012
Curt Linderman Date: 3/16/2012
Kyle Winter Date: 3/30/2012

Public Comment Period Dates: **TBD to TBD**

5. Receiving Stream Name: Meherrin River
River Mile: 5AMHN050.90
Basin: Chowan River and Dismal Swamp
Subbasin: Chowan
Section: 3
Class: III
Special Standards: None

7-Day, 10-Year Low Flow (7Q10): 12 MGD
1-Day, 10-Year Low Flow (1Q10): 4.9 MGD
30-Day, 5-Year Low Flow (30Q5): 26 MGD
30-Day, 10-Year Low Flow (30Q10): 18 MGD
Harmonic Mean Flow (HM): 93.1 MGD
High flow 1Q10: 64 MGD
High flow 30Q10: 164 MGD
Tidal? NO
On 303(d) list? YES

See **Attachment A**- Flow Frequency Memorandum

6. Operator License Requirements: The recommended attendance hours by a licensed operator and the minimum daily hours that the treatment works should be manned by operating staff are contained in the Sewage Collection and Treatment Regulations (SCATS) 9 VAC 25-790-300. A **Class II** licensed operator is required for the facility.
7. Reliability Class: Reliability is a measurement of the ability of a component or system to perform its designated function without failure or interruption of service. The reliability classification is based on the water quality and public health consequences of a component or system failure. The permittee is required to maintain **Class I** Reliability for the existing facility.
8. Permit Characterization:
☐ Private ☐ Federal ☐ State ☒ POTW ☐ PVOTW
☐ Possible Interstate Effect ☐ Interim Limits in Other Document
9. Provide a brief description of the wastewater treatment system.

OUTFALL NUMBER	DISCHARGE SOURCE	TREATMENT	DESIGN FLOW
001	Residential (90%) and commercial	Screening, grit removal, extended aeration (2X oxidation ditch), clarification (2X clarifiers), UV disinfection, aeration	1.5 MGD

The City of Emporia Wastewater Treatment Plant is a major municipal facility with a design flow of 1.5 MGD. The facility is located at 500 Tall Oaks Drive in Emporia, Virginia, sits on about 55 acres and is bounded on the south and east by Falling Run Creek, a tributary of the Meherrin River. The facility serves a population of approximately 5,927 persons with 2,500 connections. The plant primarily treats domestic wastewater, with one industrial connection (Georgia Pacific). The WWTP is comprised of a 22-acre sludge lagoon, administrative/laboratory buildings, screening and grit removal, oxidation ditches, and two clarifiers.

See **Attachment B**- Plant Flow Diagram

10. Sewage Sludge Use or Disposal:
 Historically the facility disposed of its sludge in the sludge lagoon. In May 2005 a Siemens Water Technologies Corp. "Cannibal" Solids Reduction System was installed at the facility. The Cannibal system was designed to significantly reduce the amount of sludge produced at the plant (formerly around 52 dry metric tons per year). Following installation of the Cannibal, the permittee had planned to suspend the use of the lagoon for sludge disposal but retain the structure as an emergency equalization basin. However, the Cannibal system has not performed as well as expected and while it has reduced the amount of waste solids, the reduction has not been as significant as was anticipated. To date, approximately 38.5 dry metric tons of sludge are produced annually at the plant and sludge continues to be disposed of in the 22-acre sludge lagoon. Additionally, grit that is collected in the screening system is diverted directly to the sludge lagoon. Sludge from the clarifiers is occasionally drained to the sludge lagoon during routine maintenance. The municipality continues to work with the manufacturer to fine tune the Cannibal system with the aim of improving its efficiency. Once the system is fully operational, it is anticipated that the small amount of waste sludge from the Cannibal will be land-filled.
11. Discharge Location Description: This facility discharges to the Meherrin River.

Name of USGS topographic map: Emporia Quadrangle (8A)

See **Attachment C-** Topographic Map, Emporia Quadrangle (8A)

12. Material Storage: A caustic tank is located at the headworks of the plant and is utilized to adjust the pH of the wastewater as needed. The feed is automatically controlled via a pH probe. The tank is surrounded by a large containment wall to prevent any potential spill or leak from reaching state waters. In the event of a leak, a sump pump directs the liquids to the head of the treatment works. No other chemicals are permanently stored at the facility.

The facility applied for No Exposure Certification (NEC) concurrent to their VPDES permit application. The facility was formerly covered under NEC, however the certification expired on 3/2/2008. A site visit was performed on 11/9/2011 by Janine Howard and Meredith Williams. All permanently used chemicals are stored under cover or with secondary containment and NEC was recommended. During the 11/9/11 site visit, the facility was temporarily adding polymer to the oxidation ditches to aid in settling of fine ashy particulates which had caused an upset at the plant (refer to **Attachment D** Site Inspection Report and Compliance Inspection Report for details on the upset). Due to the temporary and urgent nature of the polymer addition, secondary containment was not provided however the barrels were sealed while in use. On 12/7/11 the permittee notified DEQ that polymer addition was no longer occurring at the facility and on 2/7/12 the permittee verified that the empty polymer barrels had been removed from the premises.

The NEC application was processed on March 16, 2012 and NEC was granted effective through November 20, 2016. Refer to **Attachment M** for a copy of the NEC notice of exclusion from VPDES storm water permitting.

See **Attachment D-** Site Inspection Report

13. Ambient Water Quality Information

The Emporia Wastewater Treatment Plant discharges to the Meherrin River in Emporia, VA. The discharge is located at rivermile 5AMHN050.90.

The VDEQ has operated a continuous record gage on the Meherrin River at rivermile 5AMHN052.34 in Emporia, VA (#02052000) since 1951. The gage is located at the Route 301 bridge, approximately 1.3 mile upstream of the discharge point. The flow at the gage is regulated by a hydropower plant located 0.8 mile upstream; therefore only flow frequencies at the gage during the regulated period of record after April 1986 were used. Due to the proximity of the gage and the discharge, the flows can be assumed to be equal. Flow, hardness, pH and temperature data from this record gage station were used to characterize the receiving stream for the purpose of effluent limitation development.

14. Antidegradation Review & Comments: Tier 1 X Tier 2 Tier 3

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by

regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream is considered a Tier 1 water. The river experiences periods of low dissolved oxygen and is currently impaired for the Aquatic Life Use. Antidegradation was not applied during the 1988 modeling effort.

15. Site Inspection: Date: November 9, 2011 Performed by: Janine Howard, Meredith Williams, Megan Hayes

See **Attachment D**- Site Inspection Report and Compliance Inspection Report

16. Effluent Screening & Limitation Development:

Numeric permit limitation calculations utilize conservative low flow ambient conditions to represent circumstances in which the effluent has the greatest potential to impact the receiving stream. The receiving stream (Meherrin River) conservative low flows are listed in Item 5 of the fact sheet. Mix.exe was used to determine appropriate mix ratios; a complete mix (100%) assumption for the 7Q10 and 30Q10 flows, and 73.93% of the 1Q10 flow is available for mixing. See the Mix.exe printout in **Attachment G**. Ambient water quality data from monitoring station 5AMHN052.34 were used to characterize the receiving stream pH, temperature, and hardness (see fact sheet item 13 and **Attachment E** for more information and ambient water quality data).

Average effluent hardness was reported on the permit application and the 90th percentile of the effluent temperature was calculated from three years of temperature data (2009-2011) provided by the permittee. The 90th and 10th percentile maximum pH values were calculated using DMR data. The effluent and receiving stream data was then entered into an Agency spreadsheet termed "MSTRANTI" which calculates the maximum wasteload allocations (WLA) for each water quality parameter that will maintain the Water Quality Standards (WQS) in the receiving stream and protect against acute and chronic toxicity.

Water Quality Criteria Monitoring submitted with the application was used to screen the effluent for pollutants of concern. Pollutants that tested below the minimum Agency prescribed quantification level (QL) were considered absent for the purpose of this evaluation and no further analysis was required. Pollutants which were reported in measurable quantities, and those test results in which an unacceptable QL was used, were evaluated for a reasonable potential to violate the standard using Stats.exe and the appropriate WLA calculated by MSTRANTI.

See **Attachment F** for effluent DMR data and Water Quality Criteria Monitoring data.

Measureable concentrations (above or equal to the minimum Agency QL) of the following pollutants were identified in the effluent: dissolved cadmium, dissolved copper, dissolved lead, dissolved nickel, dissolved zinc, and chlorides. A reasonable potential analysis was performed on each of these parameters and no limitations are required.

Total recoverable selenium was reported as less than the quantification level used by the laboratory, however for this parameter the laboratory QL was greater than the Agency QL. For this reason the parameter was treated as present at a concentration equal to the lab QL for the purpose of evaluating the need for a permit limitation. Again, a reasonable potential analysis was performed and no limitation is needed. Similarly, dissolved silver was reported on the application as <0.5 µg/L, above the agency QL of 0.20 µg/L. As such, the parameter was considered present as a concentration equal to the lab QL for the purpose of the reasonable potential analysis. No limit for silver is needed.

Ammonia-N is a known constituent of domestic wastewaters and it is standard practice to perform a reasonable potential analysis on this parameter irrespective of the concentration reported on the application (less than QL in this instance). In accordance with GM00-2011 an expected concentration of 9.0 mg/L was utilized for the reasonable potential analysis and no limit is needed for this parameter.

See **Attachment G** for Mix.exe results, MSTRANTI data source report, and MSTRANTI printout.

See **Attachment H** for Stats.exe results.

Table 1. Basis for Effluent Limitations

PARAMETER	BASIS FOR LIMIT	DISCHARGE LIMITS			
		MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM
pH	3, 4	NA	NA	6.0 SU	9.0 SU
BOD ₅	1, 4	30 mg/L	45 mg/L	NA	NA
Total Suspended Solids (TSS)	2, 4	30 mg/L	45 mg/L	NA	NA
Dissolved Oxygen (DO)	1, 3	NA	NA	5.0 mg/l	NA
<i>E. coli</i> (N/100mL) (Geometric Mean)	3	126	NA	NA	NA
Toxicity, Acute (TU _a) [<i>C. dubia</i>] (Final)	5	NA	NA	NA	1.02
Toxicity, Acute (TU _a) [<i>P. promelas</i>] (Final)	5	NA	NA	NA	1.02

1. Stream Sanitation Memorandum (8/9/1988) (**Attachment I**)
2. Best Engineering Judgment (BEJ)
3. State Water Quality Standards (effective 1/6/11)
4. Federal Effluent Guidelines for Secondary Treatment (40 CFR 133.102)
5. Water quality based effluent limitation

NA = Not Applicable

Dissolved oxygen and BOD₅:

These limitations are based on the 1988 modeling effort discussed in **Attachment I**.

Additionally, the numeric criteria for dissolved oxygen per 9VAC25-260-50 for Class III waters is 5.0 mg/L.

E. coli:

All sewage discharges must be disinfected to achieve applicable bacterial concentrations in accordance with the Virginia Water Quality Standards, 9 VAC 25-260-170. Per the VPDES permit manual Section MN-3, *E. coli* is used as the disinfection indicator parameter for facilities that utilize alternative disinfection (ultraviolet) and discharge to fresh water. The monitoring frequency for this parameter is therefore determined by the VPDES Permit Manual Section MN-2 A.4 sampling schedule table, bacteria (alternate disinfection) and is set at five days per week.

pH: 9 VAC 25-260-50 of the VA Water Quality Standards outlines numerical criteria for pH in Class III waters between 6.0 S.U. and 9.0 S.U.

Total Suspended Solids (TSS):

The TSS limitation is a best engineering judgment carried forward from the 2007 permit. It is standard practice to set the TSS limitations equal to the BOD₅ permit limitations and it is likely that this is how the TSS permit limit concentrations were originally designated.

Whole Effluent Toxicity (WET): The 2012 permit includes an acute toxicity limit for both *C. dubia* and *P. promelas*. Refer to **Attachment L** WET memorandum and supporting documents for detailed information. A four year schedule of compliance is afforded, prior to the limitation becoming effective. The permittee is encouraged to undertake voluntary monitoring in the interim to aid in preparation of required annual progress reports (Part I.D) and determination of the steps needed to comply with the eventual limitation.

Human Health Evaluation:

Separate human health (HH) standards apply to waters that are designated as “Public Water Supplies (PWS)” and “all other surface waters.” The receiving stream is not designated as a PWS; consequently, the HH (PWS) standards are not applicable to this discharge. By letter dated February 10, 2012 VDH confirmed that there are no public water supply intakes within 15 miles downstream of the discharge.

Although the receiving stream is not a PWS, each parameter found in the effluent at a measureable concentration or a concentration above the Agency QL is listed in Table 2, below, and compared with the applicable Human Health (PWS) wasteload allocation for this discharge.

Table 2. Human Health Evaluation

Parameter	Human Health WLA (PWS)	Effluent Concentration	Exceed Human Health WLA
Cadmium (µg/l)	92	0.33	NO
Chlorides (µg/l)	4.6×10^6	67.9×10^3	NO
Copper (µg/l)	24000	5.6	NO
Lead (µg/l)	280	0.5	NO
Nickel (µg/l)	11000	2.3	NO
Selenium	3100	<5.0	NO
Silver	N/A	<0.5	N/A
Zinc (µg/l)	140000	47	NO

As indicated in Table 2, the parameters found in measurable concentrations in the effluent do not present a reasonable potential to cause or contribute to a human health concern. No further evaluation is necessary.

17. Basis for Sludge Use & Disposal Requirements:

Not applicable, as this facility does not land apply sludge. See Item 10 for further details on sludge use and disposal.

18. Antibacksliding Statement:

No limits have been reduced or removed during this permit reissuance.

19. Compliance Schedule: The 2012 permit includes an acute toxicity limit for both *C. dubia* and *P. promelas*. A four year schedule of compliance is afforded for the permittee to meet this limit. Refer to Part I.D. of the permit and **Attachment L** for the Whole Effluent toxicity evaluation.

20. Special Conditions:

Part I. B.1: 95% Capacity Reopener

Rationale: Required by VPDES Permit Regulation, 9VAC25-31-200 B 4 for all POTW and PVOTW permits.

Part I. B.2: Indirect Dischargers

Rationale: Required by VPDES Permit Regulation, 9VAC25-31-200 B 1 and B 2 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

Part I. B.3: CTC, CTO Requirement

Rationale: Required by Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790.

Part I. B.4: Reliability Class

Rationale: Required by Sewage Collection and Treatment Regulations, 9VAC25-790 for all municipal facilities.

Part I. B.5: Licensed Operator Requirement

Rationale: The VPDES Permit Regulation, 9VAC25-31-200 C and the Code of Virginia § 54.1-2300 et seq, Rules and Regulations for Waterworks and Wastewater Works Operators (18VAC160-20-10 et seq.), require licensure of operators.

Part I. B.6: Sludge Reopener

Rationale: Required by VPDES Permit Regulation, 9VAC25-31-220 C for all permits issued to treatment works treating domestic sewage.

Part I. B.7: Sludge Use and Disposal

Rationale: VPDES Permit Regulation, 9VAC25-31-100 P; 220 B 2; and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on sludge use and disposal practices and to meet specified standards for sludge use and disposal.

Part I.B.8: Groundwater Monitoring

Rationale: State Water Control Law § 62.1-44.21 authorizes the Board to request information needed to determine the discharge's impact on State waters. Ground water monitoring for parameters of concern will indicate whether possible lagoon seepage is resulting in violations of the State Water Control Board's Ground Water Standards. Surface water monitoring of the receptor of the groundwater plume will indicate whether possible lagoon leakage is impacting State surface waters and resulting in violations of the State Water Quality Standards.

See **Attachment K** for the 2011 Groundwater Monitoring Evaluation. Continued groundwater and surface water (receptor) monitoring in accordance with the approved Groundwater Monitoring Plan (3/23/87) and approved Corrective Action Plan Phase I and II (4/24/08 and 2/6/09) is required by the 2012 permit.

Part I. B.9: Total Maximum Daily Load (TMDL) Reopener

Rationale: Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The re-opener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

Part I. B.10: Operations and Maintenance Manual Requirement

Rationale: Required by Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9VAC25-31-190 E.

Part I. B.11: Compliance Reporting

Rationale: Authorized by VPDES Permit Regulation, 9VAC25-31-190 J 4 and 220 I. This condition is necessary when pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.

The QLs for BOD₅, TSS are Agency prescribed. The BOD₅ QL was reduced from 5.0 mg/L to 2 mg/L in accordance with recently adopted General Permit regulations.

Part I. B.12: Closure Plan

Rationale: Code of Virginia § 62.1-44.19 of the State Water Control Law. This condition establishes the requirement to submit a closure plan for the wastewater treatment facility if the treatment facility is being replaced or is expected to close.

Part I. B.13: Materials Handling/Storage

Rationale: 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia § 62.1-44.16 and 62.1-44.17 authorizes the Board to regulate the discharge of industrial waste or other waste.

Part I. B.14 Pretreatment

Rationale: VPDES Permit Regulation, 9VAC25-31-730 through 900, and 40 CFR Part 403 require certain existing and new sources of pollution to meet specified regulations.

Part C. Whole Effluent Toxicity (WET) Testing

Rationale: VPDES Permit Regulation, 9 VAC 25-31-210 and 220 I, requires monitoring in the permit to provide for and assure compliance with all applicable requirements of the State Water Control Law and the Clean Water Act. (See **Attachment L**)

Part D. Schedule of Compliance for WET Limitations

Rationale: 9VAC 25-31-250 allows for schedules of compliance, when appropriate, which will lead to compliance with the Clean Water Act, the State Water Control Law and regulations promulgated under them.

Part II, Conditions Applicable to All Permits

Rationale: VPDES Permit Regulation, 9VAC25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

21. Changes to Permit:

Changes to Permit Cover Page:

Cover page Boilerplate verbiage revised as per January 27, 2010 VPDES Permit Manual, Section MN-1. Facility location updated to reflect the address given in the application (500 Tall Oaks Drive). The previous address (100 Briggs Street Ext.) was not mapped and was not a valid postal address. The City renamed the road so that the facility now has a standardized U.S. Postal Service address.

Table I. Changes to Part I. A Effluent Limits and Monitoring Requirements:

Parameter Changed	Monitoring Requirement Changed		Effluent Limits Changed		Reason for Change:
	From	To	From	To	
BOD ₅	3/Week	5 Days per week	No change	No change	Reduced monitoring not applicable due to enforcement action (refer to fact sheet section 25, staff comment a.)
Toxicity, Acute (TU _a) [<i>C. dubia</i>] (Final)	---	1 per Quarter	---	1.02	WET evaluation indicated the need for a permit limitation based on acute toxicity.
Toxicity, Acute (TU _a) [<i>C. promelas</i>] (Final)	---	1 per Quarter	---	1.02	WET evaluation indicated the need for a permit limitation based on acute toxicity.
Other Changes	From	To	Change:		
NL, NA definitions	NL= NA=	NA means... NA means...	Definitions written out and clarified		
24HC	---	24HC means...	Definition of 24HC added for clarity.		
Footnote	a.	Part I.A.1	Incorporated into Part I.A.1 statement.		
Footnote	(1)	Deleted	Not needed. Units incorporated into the limitations page and associated directly with each parameter.		
Footnote	(2)	a.	Design flow updated to two significant digits (1.5 MGD). "TIRE" definition removed as it is spelled out in table. Citation to Part I.B.1 added.		
Footnote	(3)	b.	Relabeled.		
Footnote	(4)	Deleted	Not needed, geometric mean specified in the limitations table.		
Footnote	b.	Part I.A.2	Formatting change, relabeled.		
Footnote	c.	Part I.A.3	Changed to clarify that effluent samples should be taken post –aeration.		
Footnote	d.	c.	Citation to Part I.B.11 QLs and reporting requirements updated and relabeled.		
Footnote	e.	Part I.A.4	Relabeled and BOD clarified to read BOD ₅ .		
Footnote	---	d.	Citation to WET special condition added for clarity.		

Footnote	---	e.	Citation to Schedule of Compliance added for clarity.
Footnote	---	f.	Added to define quarterly monitoring periods for the WET limitation.

Table II. Changes to Permit:

From:	To:	Reason/Change:
Part I. B.1 95% Capacity Reopener	Part I. B.1 95% Capacity Reopener	Language update per 8/25/11 edition VPDES Permit Manual
Part I. B.2 Indirect Dischargers	Part I. B.2 Indirect Dischargers	Language update to replace "Department" with "DEQ Piedmont Regional Office" for clarity.
Part I. B.3 CTC, CTO Requirement	Part I. B.3 CTC, CTO Requirement	Language update per 8/25/11 edition VPDES Permit Manual
Part I. B.4 Reliability Class	Part I. B.4 Reliability Class	No change
Part I. B.5 Licensed Operator Requirement	Part I. B.5 Licensed Operator Requirement	No change
Part I. B.6 Sludge Reopener	Part I. B.6 Sludge Reopener	No change
Part I. B.7 Sludge Use and Disposal	Part I. B.7 Sludge Use and Disposal	Language update in accordance 8/25/11 edition VPDES Permit Manual
Part I. B.8 Groundwater Monitoring	Part I. B.8 Groundwater Monitoring	Language update per 8/25/11 edition VPDES Permit Manual and PRO edits appropriate to the situation
Part I. B.9 TMDL Reopener	Part I. B.9 TMDL Reopener	No change
Part I. B.10 O&M Manual Requirement	Part I. B.10 O&M Manual Requirement	Language updated to include reference to the DEQ Piedmont Regional Office for clarity and in accordance with 8/25/11 VPDES permit manual
Part I. B.11 Water Quality Criteria Monitoring	Deleted	No longer needed because Attachment A is now submitted with the permit application
Part I.B.12 Compliance Reporting	Part I.B.11 Compliance Reporting	Renumbered and language update per 8/25/11 VPDES Permit manual.
----	Part I.B.12 Closure Plan	Added per 8/25/11 edition VPDES Permit Manual
Part I.B.13 Material Storage and Handling	Part I.B.13 Material Handling and Storage	Updated per 8/25/11 edition VPDES Permit Manual
Part I.B.14 Effluent Monitoring Frequencies	Deleted	Reduced monitoring is no longer applicable due to enforcement action within the last three years
Part I.C. Pretreatment Program	Part I.B.14 Pretreatment	Language update per 8/25/11 edition VPDES Permit Manual and PRO edits
Part I. D. WET Testing	Part I. C. WET testing	Language update per TMP memo (Attachment L) in coordination with Central Office

From:	To:	Reason/Change:
		(D. Debiasi) and PRO edits
---	Part I.D. Schedule of Compliance	Added due to the new WET limitation in Part I.A.

Changes to Part II: Part II.A.4 added to address the Virginia Environmental Laboratory Accreditation Program (VELAP) requirements. The addition was made in accordance with the 7/19/11 WPM email and Central Office guidance.

- 22. Variances/Alternate Limits or Conditions: None
- 23. Regulation of Users: 9VAC25-31-280 B 9: Not applicable, this facility is a POTW.
- 24. Public Notice Information required by 9VAC25-31-280 B:

Comment period: **TBD**
 Date of first publishing: **TBD**
 Date of second publishing: **TBD**
 Publishing Newspaper: **TBD**

All pertinent information is on file and may be inspected, and copied by contacting Janine Howard at Virginia DEQ-Piedmont Regional Office, 4949-A Cox Road, Glen Allen VA 23060, (804) 527-5046, e-mail Janine.howard@deq.virginia.gov.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit. The public may review the draft permit and application at the DEQ office named above by appointment or may request copies of the documents from the contact person listed above.

Public Notice Comments:

TBD

- 25. Additional Comments:

Previous Board Action: None

Planning Statement: This discharge is in conformance with the existing planning documents for the area (J. Palmore, 3/20/12)

Staff Comments:

- a. This facility was issued a Warning Letter on October 27, 2011, followed by a Notice of Violation on December 8, 2011 for TSS and *E. coli* permit limitation exceedances. Due to this enforcement action, the facility is not eligible for reduced monitoring consideration at this time. Reduced monitoring (three days per week) for BOD₅ was applied in the 2002 permit, however due to the enforcement action within the last three year period, BOD₅ monitoring frequency is reset to the baseline monitoring frequency of five days per week in the 2012 permit. As such, the effluent monitoring frequencies (Part I.B.14 in the 2007 permit) special condition is not included in the 2012 permit.
- b. The 2011 permit fees for this facility were paid on 9/27/2011.
- c. This discharge is not controversial. The facility is currently under enforcement for TSS and *E. coli* exceedances for the months of October and November. These exceedances are associated with the upset, described in the site visit memo and Compliance Inspection memo by Meredith Williams (**Attachment D**). A Notice of Violation was issued on December 8, 2011.
- d. The facility is not a member of the Virginia Environmental Excellence Program (VEEP).
- e. The permittee has been notified of the requirement to register for DEQ's e-DMR program on 11/15/2010 and 6/2/2011. The e-DMR registration form was received on March 13, 2012. Due to an e-DMR database complication, the e-DMR administrator is unable to register the facility for e-DMR submittals at this time. Therefore, a hard copy DMR will be provided with the 2012 permit package. If at a later date the facility's e-DMR application is processed, the facility will be notified of the expectation to submit DMRs electronically at that time.
- f. This facility is not required to register for coverage under 9 VAC 25-151 General VPDES Permit VAR05 for Discharges of Storm Water Associated with Industrial Activity (Sector T) due the issuance of No Exposure Certification on March 16, 2012. Refer to **Attachment M** for the NEC notice letter.
- g. The facility is not required to register for coverage under 9 VAC 25-820-10 et seq.- General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia. The facility does not discharge into the Chesapeake Bay Watershed and is not listed in the Chesapeake Bay TMDL.

Threatened and Endangered Species Coordination:

As required by the 2007 Memorandum of Understanding (MOU) between VDEQ, VDGIF (Virginia Department of Game and Inland Fisheries), VDCR (Virginia Department of Conservation and Recreation), and USFWS (United States Fish and Wildlife Service), a threatened and endangered species screening was conducted for this permit reissuance. The T&E review was performed in accordance with GM 07-2007.

A request for review was submitted to DCR via the Natural Heritage Explorer webpage and a report was generated on 7/15/2011. The report indicated that "Natural heritage resources have been documented within two miles of the indicated project boundaries." A subsequent response was received on August 8, 2011 stating that the Meherrin River Stream Conservation Unit (SCU) is in the vicinity of the discharge. SCUs identify stream reaches that contain aquatic natural heritage resources, and include two miles upstream and one mile downstream of any documented resources and any tributaries within the reach. The species of concern within the SCU are the yellow lampmussel, green floater, yellow lance,

and Roanoke slabshell. DCR recommended the use of UV or ozone disinfection as opposed to chlorination to minimize the impacts to aquatic resources. DCR also recommended coordination with VDGIIF. Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. DCR stated that the current activity will not affect any documented state-listed plants or insects. A response was provided to DCR on 9/16/11, indicating that UV disinfection is already utilized at this plant and that coordination with VDGIIF had been initiated. No further coordination with DCR is necessary.

A T&E species screening was conducted using VDGIIF's Fish and Wildlife Information Service for aquatic species. The green floater, listed as state threatened, was confirmed within a two mile radius of the outfall. Formal coordination with VDGIIF was initiated on 9/16/2011. A written response was received on 11/3/2011, indicating that VDGIIF do not anticipate that the reissuance of the permit will result in an adverse impact to designated potential T&E waters or associated listed species. VDGIIF requested that they be notified if new limitations are added to the draft 2012 permit and also recommended UV disinfection. DEQ responded on 11/8/2011 indicating that UV disinfection is already in place.

Due to the new acute toxicity permit limitation in the 2012 permit, VDGIIF were contacted on 2/14/12 and informed of the new limit. As of 3/26/12 no further comments were received and the coordination effort is considered complete.

See **Attachment J** for the T&E coordination documents.

Other Agency Comments:

VDH Office of Drinking Water- VDH was provided a copy of the reissuance application on 2/3/12. By letter dated February 10, 2012 VDH confirmed that there are no public water supply raw water intakes located within 15 miles downstream of the facility. VDH did not request a copy of the draft permit for review and comment.

EPA – EPA review of the permit is required due to its status as a major. Coordination will be initiated following WPM review of draft permit.

26. 303(d) Listed Segments (TMDL):
During the 2010 305(b)/303(d) Water Quality Assessment, this segment of the Meherrin River was considered a Category 5A water ("A Water Quality Standard is not attained. The water is impaired or threatened for one or more designated uses by a pollutant(s) and requires a TMDL (303d list).") The applicable fact sheets are included in **Attachment A**. The river is impaired of the Fish Consumption Use due to PCBs and mercury in fish tissue. Arsenic in fish tissue was also above its screening limit and is considered an observed effect. The Aquatic Life Use is impaired due to low dissolved oxygen. The Recreation- and Wildlife Uses are fully supporting. The discharge is not currently included in any TMDL.

Conventional pollutant (BOD₅ and DO) effluent limits have been included in this permit that, based on the modeling analyses completed in 1988, are expected to maintain the ambient DO daily water quality criterion for Class III waters (refer to **Attachment I**). PCBs and mercury were reported as less than the parameter specific agency QL on the permit reissuance application. Based on this data, the facility is not expected to be a source of PCBs or mercury. The facility will neither cause nor contribute to the impairment or to violations of the Water Quality Standards (9 VAC 25-260 et seq., effective 1/6/11).

27. Attachments

Attachment A: Flow Frequency Memorandum
Attachment B: Plant Flow Diagram
Attachment C: Topographic Map (Emporia Quadrangle 8A) and Aerial Image
Attachment D: Site Inspection Report and Compliance Inspection Report
Attachment E: Ambient Data (Station 5AMHN052.34)
Attachment F: Effluent Water Quality Criteria Monitoring data, DMR data
Attachment G: Mix.exe, MSTRANTI data source report, MSTRANTI
Attachment H: Stats.exe Results
Attachment I: Stream Sanitation Memorandum (8/9/1988)
Attachment J: Threatened and Endangered Species Screening Documents
Attachment K: Groundwater Evaluation, Monitoring Well Location Map, and Corrective Action Plan (CAP) Phase II Approval Letter and Memo
Attachment L: Whole Effluent Toxicity Memorandum
Attachment M: No Exposure Certification